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NEW SPECIES OF POLYCHAETE WORMS OF THE GENUS
EUPHROSYNE, WITH NOTES ON EUPHROSYNE BORE-
ALIS ØRSTED

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IN a recent paper (Treadwell, 1937, p. 25) I identified as *Euphrosyne borealis* Ørsted some annelids collected in Greenland by Capt. Robert A. Bartlett. Later comparison of these with other members of the genus led me to question the accuracy of this identification, and through the kindness of Dr. Waldo L. Schmitt I have had opportunity to examine all specimens of this genus in the collections of the United States National Museum. These were all labeled *Euphrosyne borealis*, but it appears that three species are represented.

Euphrosyne differs from the other members of the family Amphinomidae in that the neuropodia and notopodia are fused into a continuous ridge running from the ventrolateral border to the dorsal surface, leaving more or less of the middorsal region uncovered. The only species hitherto described from the northeastern coast of North America is *E. borealis* Ørsted (1842, p. 113). Ørsted's description is very brief, and the only addition to his account that I know is that of McIntosh (1885, pp. 5-6; pl. 1, figs. 2, 3; pl. 1A, figs. 4-6), who corrected Ørsted's statement that there are no dorsal cirri and gave some figures of the setae. To this account a few details may now be added.

Genus EUPHROSYNE Savigny

EUPHROSYNE BOREALIS Ørsted

FIGURE 46, a, b

Euphrosyna borealis ØRSTED, 1842, p. 113.

Body oval in outline; length 14 mm, width 7 mm. The parapodial ridge is thickly set with setae and gills, the tips of the dorsal setae in each somite overlapping those of the opposite side, their bases leaving a median dorsal clear space hardly wider than one-eighth of the body diameter. The caruncle (fig. 46, a) extends onto the fourth setigerous somite and has three longitudinal lobes, the median covering the laterals. At the anterior end of the caruncle lie the posterior eyes, overlapped by the basal portion of the median tentacle. This tentacle has a thickened, oval, basal portion that abruptly narrows distally into a slender process about one-third as long as the basal. An anterior pair of eyes lies on the ventral face of the prostomium and is not visible from above. In none of my material was I able to demonstrate the anterior paired tentacles that should lie at the level of the anterior eyes. In the other species these were easily seen. (See *E. branchiata* below.) The dorsal cirrus is sometimes difficult to see since it varies greatly in size. It is slender and, as noted by McIntosh (1885, p. 6), is fastened to the body wall almost in contact with the base of the dorsalmost gill (fig. 46, b). The ventral cirrus is much larger and lies near the ventral end of the seta row, its base surrounded by the ventralmost setae. In two somites taken at random there were six and seven gills in a single row on the parapodial ridge of one side of the body. Some of these were single filaments, but others may be 2-, 3-, or 4-branched (fig. 46, b). Ørsted described them as "bi-tripartitis." In the figure the dorsal cirrus is shown at the base of the gill.

The ventralmost setae form a prominent tuft in which those nearest the ventral surface are the shortest. Dorsal to the tuft the setae are shorter and continue of uniform width to the end of the ridge. The setae are as figured by McIntosh (1885, pl. 1A, figs. 4-6).

EUPHROSYNE BRANCHIATA, new species

FIGURE 46, c-f

Description.—Body length 6-7 mm; width 2-3 mm. The body is elongate-oval in outline and somewhat less shaggy in appearance than others of this genus. The ventral setae are longer than the dorsal and extend to a considerable distance from the body. Dorsal to this tuft of ventral setae the others are much shorter, hardly longer than the gills. The caruncle extends to the fourth somite, and the median

tentacle is about one-fourth as long as the caruncle. It is of uniform width throughout, lacking the slender terminal portion of *E. borealis* (fig. 46, *c*). The two pairs of eyes are situated as in *borealis*, and near the ventral pair are two slender tentacles. From a dorsal view only the tips of these tentacles are visible.

On the dorsal surface a clear space of about one-third the body width separates the upper ends of the parapodial ridges. At the ventral end of the ridge is a ventral cirrus with a tuft of long setae just dorsal to it. There follow rows of shorter setae with gills interspersed among them, and a dorsal cirrus is at the dorsal end of the row. In one row there were five gills, but I cannot say whether this

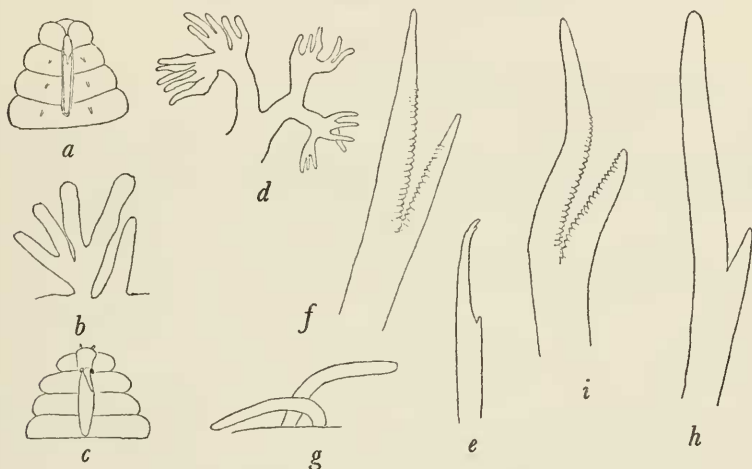


FIGURE 46.—Species of EUPHROSYNE

a, b, Euphrosyne borealis Ørsted: *a*, Anterior end, x 6; *b*, gill and dorsal cirrus, x 22.5.
c-f, Euphrosyne branchiata, new species: *c*, Anterior end, x 7.5; *d*, gill, x 68; *e*, small seta, x 250; *f*, large dorsal seta, x 250.
g-i, Euphrosyne longisetis, new species: *g*, Gill, x 22.5; *h*, smaller seta, x 185; *i*, larger seta, x 185.

number is constant in all somites. The gills (fig. 46, *d*) are complexly branched and about as long as the setae. The long setae of the ventral tuft vary considerably in width and in the size of the larger tooth but are all alike in general structure. At some distance from the apex is a sharp tooth followed by a narrowing to the curved, sharp apex. Just behind the apex is a very small, slender tooth (fig. 46, *e*). In the row with the gills are shorter but heavier setae, which are hardly longer than the gills. They vary in size, but all have the general outline shown in figure 46, *f*. Some are smooth beyond the fork; others have the marginal lobing shown in the figure.

Type.—U.S.N.M. no. 20412. Collected by the U. S. S. *Albatross* at station 2265, October 18, 1884, at latitude 37°07'40" N., longitude 74°35'40" W., in 70 fathoms.

Remarks.—In the character of the gills and setae this species agrees closely with *E. armadillo* Sars as described by McIntosh (1900, pp. 238-240, pl. 35, figs. 2, 8-14), and possibly it may be that species. McIntosh described the median tentacle as biarticulate, by which I assume he meant like that figured for *E. borealis*, but in the present specimens the terminal slender portion is not present. Also, the subterminal fine tooth on the seta is larger than is shown in McIntosh's figure.

EUPHROSYNE LONGISETIS, new species

FIGURE 46, *g-i*

Description.—Caruncle and median tentacle much as in *E. borealis*, except that in the tentacle the basal portion is much shorter and the terminal narrow part relatively much longer than *borealis*. The setae are of more uniform width than in other species and extend to a greater distance from the body surface. It differs also from *E. borealis* in that the middorsal naked strip is much wider, being about as wide as one-third of the body width. In this respect it resembles *E. branchiata*. The gills are cirruslike processes of uniform diameter and generally unbranched (fig. 46, *g*), but in larger individuals a few may have two or three branches. On the parapodial ridge of one half somite there were six of these gills. Most of the setae are as shown in figure 46, *h*, having a conical subterminal tooth and the end of the seta blunt. In the dorsal part of the row the setae are as shown in figure 46, *i*, differing only slightly from those of *E. borealis*.

There is some difference in length between the ventral and the dorsal setae, this being more marked in large than in small individuals.

Type.—U.S.N.M. no. 338; labeled as collected in Greenland by Dr. Charles Lütken. It is 15 mm long and 5 mm wide.

Remarks.—This species is the commonest of the genus in the National Museum collections. It is recorded as taken in Massachusetts Bay; off Head Harbor (probably U. S. Fish Commission station x, Aug. 2, 1872, Bay of Fundy, 2½ miles about southeast of Head Harbor Light, Campobello Island, 90 fathoms); Banquereau; and east end of Cobourg Island, Baffin Bay, latitude 75°40' N., longitude 78°50' W.

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